

ABSTRACT

An exposure apparatus has a laser device that is small, easy to maintain, and capable of producing an output that is unlikely to be affected by optical surges occurring in the beginning of operation. A single-wavelength laser oscillator (11) supplies a laser beam (LB1) to a fiber optic amplifier (13) through an optical modulator (12). The amplified laser beam is split by splitters (14, 16-1 to 16-m), amplified by optical amplifier units (18-1 to 18-n) and supplied through a fiber bundle (19) to a wavelength converter (20), which in turn converts the split beams into ultraviolet laser radiation (LB5) for use as exposure light. The optical modulator (12) outputs light pulses during the generation of ultraviolet light. The optical modulator (12) also produces laser radiation during the absence of ultraviolet light, but the laser radiation has substantially the same average output and a considerably low peak compared with that during the generation of ultraviolet light.